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APPLE/FENWICK
SILICON VALLEY CENTER
801 CALIFORNIA STREET
MOUNTAIN VIEW, CA 94041

EXAMINER	
REPKO, JASON MICHAEL	

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2628	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/826,973	NILES ET AL.	
	Examiner	Art Unit	
	JASON M. REPKO	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _29 May 2009_.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _116 and 121-137_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _116 and 121-137_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. **Claims 116 and 121-137 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,714,201 to Grinstein et al. in view of Michiel van de Panne, "Control Techniques for Physically-Based Animation," 1994, Thesis for the Department of Electrical and Computer Engineering University of Toronto [online]. [retrieved on 08/19-2009] Retrieved from the Internet: <URL: http://www.dgp.utoronto.ca/~van/phd.ps.gz>, pp. 83-115 ("Panne")**.

4. Regarding claim 116, Grinstein et al. disclose "in a computer implemented animation system, a method for animating an object (*Fig. 2*), the method comprising:

a. receiving an input specifying a Random Motion behavior (*receiving the instructions written in C++ that invoke the OpenMotion API as described in section 6.2*

at column 15) specifying an Attracted To behavior (*motion behaviors are described in section 6.2.6, where it is disclosed "A Behavior is an action that changes a motion's parameters" in lines 12-14 of column 29*),

i. the Random Motion behavior indicating how to change a value of a position parameter of the object over time based on a pseudo-random motion path (*the random wandering behavior for the ball, where the velocity direction is randomized as described in section 6.2.8.5 in lines 38-52 of column 38: " BehaviorVar wander=(velocityControl(randomDir(simTime( )));... Motion Ball; Ball.behavior (wander,...."; The behavior is pseudo-random because the random direction, given by randomDir, depends on a non-random seed parameter.*);

b. animating the object by changing the value of the position parameter of the object over time according to the Random Motion behavior (*lines 46-53 of column 75: "...generating an animated view of the given model in which the given model is rendered at each of a succession of time values with individual ones of the model's nodes being shown in each successive rendering as having a position and orientation determined as a function of the value for the rendering's corresponding time value of the position and orientation values defined by the node's associated motion..."; section 6.2.6 describes Behaviors which changing the value of a parameter, for example position, over time*); and

c. outputting the animated object (*the end result of applying motions and behaviors is an animated image of an object as shown in Fig. 3 and described in lines 17-20 of*

column 53: "Since Mojo is a real-time motion editor, the model of the running man is shown moving according to a set of motions that have been applied to the individual nodes of its hierarchical model.");

d. wherein the Random Motion behavior can be configured regarding:

ii. an amount parameter (*advanced parameters Fig. 10 and 20 described at section 6.4.3.1.2 of col. 50; see also a parameter given to a Behavior object as described in lines 21-28 of column 29*), which determines a length of the motion path (*lines 62-67 of column 50: "The variance range controls the variation of movement between the maximum and minimum displacement of a motion. For example, shake may have a max. distance of 10 units and a min. of 10. With the variance set at 0%, the object will move rhythmically from side to side 10 units left and right."*; *see also the parameter "when (isInside(goal, Ball)).perform(stop)" terminates the motion path, and thus, determines the length of the path*);

iii. a noisiness parameter (*a parameter given to a Behavior object as described in lines 21-28 of column 29*), which determines a level of jaggedness along the motion path (*the wander parameter described in lines 38-40 of column 38 determines the direction as a dynamic function of "simTime", and thus, determines the characteristics such as level of jaggedness of the motion path*); and

iv. a drag parameter (*a parameter given to a Behavior object as described in lines 21-28 of column 29*), which determines a speed at which the object moves along the motion path (*the wander parameter not only gives a direction but also*

determines that the "ball will have a constant speed of 1 unit per second" as described in lines 37-38 of column 38).

5. Grinstein et al. does not disclose "a frequency parameter, which determines a crookedness of a motion path, wherein a higher value of the frequency parameter results in the motion path having more turns, and wherein a lower value of the frequency parameter results in the motion path being straighter."

6. Regarding claim 116, Panne disclose the Random Motion behavior (*parameterized controller at section 5.5, p. 94*) indicating how to change a value of a position parameter of the object over time based on a pseudo-random motion path (*Figure 5.11 at p. 99*) that can be configured regarding:

e. "a frequency parameter (*section 5.5, p. 94: " Using the parameterized controller requires specifying the values of these three parameters over time, namely: the turn frequency, turn sharpness, and general heading of the turns."*), which determines a crookedness of a motion path, wherein a higher value of the frequency parameter results in the motion path having more turns, and wherein a lower value of the frequency parameter results in the motion path being straighter" (*Track 2 in Figure 5.11 at p. 99 shows decreasing the frequency causes a decrease in the number of turns. For example, for lower values of frequency, e.g. the second half of the track, there are approximately four turns; and for higher values of frequency, e.g. the first half of the track, there are approximately nine turns. See also Fig. 5.7 on p. 94*); and

f. "a noisiness parameter (*section 5.5 p. 94: " Using the parameterized controller requires specifying the values of these three parameters over time, namely: the turn*

> *frequency, turn sharpness, and general heading of the turns."*), which determines a level of jaggedness along the motion path" (*Track 3 in Figure 5.11 at p. 99 shows a sharpness parameter controlling turn sharpness analogous to the recited jaggedness.*).

7. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate Panne's pseudo-random behavior and parameterized control over frequency in Grinstein's animation system. The motivation for doing so would have been to simplify the creation and improve the realism of complex turning motions in animation. For example, see Panne's discussion in the introduction of Chapter 5 on page 81. Therefore, it would have been obvious to combine Grinstein et al. with Panne to obtain the invention specified in claim 116.

8. Claim 123 recites limitations similar to those of claim 116, but omits the amount, noisiness and drag parameters. The limitations of claim 123 are met by the combination of Grinstein et al. and Panne as shown in the rejection of claim 116 incorporated here by reference.

9. Regarding claim 124, Panne et al. disclose "the frequency parameter determines a crookedness of the motion path" (*Track 2 in Figure 5.11 at p. 99 shows decreasing the frequency causes a decrease in the number of turns. The second half of the track, where the frequency is lower, has fewer turns.*). The proposed combination as well as the motivation for combining the references presented in the rejection of the parent claim applies to this claim and is incorporated herein by reference.

10. Regarding claim 125, Grinstein et al. does not expressly disclose "the Random Motion behavior can be further configured regarding a noisiness parameter, which determines a level of jaggedness along the motion path, and wherein a higher value of the noisiness parameter results in a motion path being more jagged."

11. Regarding claim 125, Panne discloses “the Random Motion behavior can be further configured regarding a noisiness parameter (*section 5.5 p. 94: " Using the parameterized controller requires specifying the values of these three parameters over time, namely: the turn frequency, turn sharpness, and general heading of the turns."*), which determines a level of jaggedness along the motion path, and wherein a higher value of the noisiness parameter results in a motion path being more jagged” (*Track 3 in Figure 5.11 at p. 99 shows a sharpness parameter controlling turn sharpness analogous to jaggedness. For example, the first half of the track, where sharpness is lower, the track is less jagged. The second half of the track, where sharpness is higher, is more jagged.*).

12. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate Panne’s parameterized control of noisiness of pseudo-random turning motions in Grinstein’s animation system. The motivation for doing so would have been to simplify the creation and improve the realism of complex turning motions in animation. For example, see Panne’s discussion in the introduction of Chapter 5 on page 81. Therefore, it would have been obvious to combine Grinstein et al. with Panne to obtain the invention specified in claim 125.

13. Regarding claim 126, Grinstein et al. disclose “the Random Motion behavior can be further configured regarding an amount parameter, which determines a length of the motion path, and wherein a higher value of the amount parameter results in the motion path being longer” (*lines 62-67 of column 50: "The variance range controls the variation of movement between the maximum and minimum displacement of a motion. For example, shake may have a max. distance of 10 units and a min. of 10. With the variance set at 0%, the object will move rhythmically from*

side to side 10 units left and right."). The proposed combination as well as the motivation for combining the references presented in the rejection of the parent claim applies to this claim and is incorporated herein by reference.

14. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate Panne's parameterized control of length in Grinstein's animation system. The motivation for doing so would have been to give the user a greater degree of control over the final animation. For discussion of additional advantages of the parameterization, see Panne's discussion in the introduction of Chapter 5 on page 81. Therefore, it would have been obvious to combine Grinstein et al. with Panne to obtain the invention specified in claim 126.

15. Regarding claim 127, Grinstein et al. disclose "the Random Motion behavior can be further configured regarding a drag parameter," (*a parameter given to a Behavior object as described in lines 21-28 of column 29*), "which determines a speed at which the object moves along the motion path" (*the wander parameter not only gives a direction but also determines that the "ball will have a constant speed of 1 unit per second" as described in lines 37-38 of column 38*). The proposed combination as well as the motivation for combining the references presented in the rejection of the parent claim applies to this claim and is incorporated herein by reference.

16. Claims 121 and 128-132 recite limitations similar in scope to the limitations of claims 116 and 123-127, respectively, as a method on a computer program product. As shown in the rejection, the Grinstein et al. and Panne combination disclose the limitations of claims 116 and 123-127, incorporated here by reference. Additionally, Grinstein et al. disclose a computer program product for animating an object, the computer program product comprising a computer-readable storage medium containing computer program code at lines 51-56 of column 6: "It

should be understood that the invention is meant to include apparatus, methods, computer programming recorded on computer readable media, and propagated signals capable of providing functionality of the type recited in each claim, even if there currently are not claim covering each of these different class of inventions below." Thus, the computer readable medium recited in claims 121 and 128-132 are met by the combination according to the mapping presented in the rejection of claims 116 and 123-127 because the computer readable medium stores the method disclosed in claim 121 and 128-132. The proposed combination as well as the motivation for combining the references presented in the rejection of the claim 116 applies to this claim and is incorporated herein by reference.

17. Claims 122 and 133-137 recite limitations similar in scope to the limitations of claims 116 and 123-127, respectively, as a method on a "machine-readable storage medium" within a system. As shown in the rejection, the Grinstein et al. and Panne combination disclose the limitations of claims 116 and 123-127. Additionally, Grinstein et al. disclose a "A system for animating an object, the system comprising: a machine readable storage medium storing computer program code for performing a method" at lines 51-56 of column 6: "It should be understood that the invention is meant to include apparatus, methods, computer programming recorded on computer readable media, and propagated signals capable of providing functionality of the type recited in each claim, even if there currently are not claim covering each of these different class of inventions below." Thus, the system recited in claims 122 and 133-137 is met by the combination according to the mapping presented in the rejection of claims 116 and 123-127. The proposed combination as well as the motivation for combining the references presented in the rejection of the claim 116 applies to this claim and is incorporated herein by reference.

Response to Arguments

18. Applicant's arguments with respect to claim 116, 121, and the newly presented claims have been considered but are moot in view of the new ground(s) of rejection necessitated by amendment.

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON M. REPKO whose telephone number is (571)272-8624. The examiner can normally be reached on Monday through Friday 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on (571)272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMR

/Ulka Chauhan/
Supervisory Patent Examiner, Art Unit 2628